REMARKS

In response to the office action mailed March 26, 2008, Applicant has amended Claim 1 and cancelled Claim 12 to place the application in better condition for continued examination and allowance. In the amendment the different polymeric species making up the polymeric layer of the barrier component have now been listed in Claim 1, with the polymeric species as specified in Claim 1 being taken from Claim 12 (now cancelled), but with certain categories of compounds (celluloses, pectins, gums, hydroxymethyl celluloses, carboxylmethyl celluloses, cellulose acetates, cellulose acetate butyrates and cellulose acetate proprionates) of Claim 12 having been omitted from amended Claim 1 so that the scope of Claim 1 is, as regards the different polymeric species, narrower than Claim 12 was. Claims 1-11 and 13-16 are pending in the application.

Regarding the rejection of Claims 1 to 16 under 35 USC § 102(b) as being anticipated by Nakashio *et al* (US 3,997,703), the Applicant has noted the Office Action's position.
It is respectfully submitted that the arguments raised in the final office action, in continuing to find that Claims 1 to 16 are anticipated by Nakashio et al (US 3997703), are not well founded and, in some instances, factually incorrect. Thus, the office action continues to contend that Nakashio teaches a barrier component comprising a polymeric layer comprising at least two different polymeric species which are polar and which are water soluble, having different chemical compositions and being complementary in that they are bound together physically by interpolymer complexation to form an interpenetrating physical network, and cites column 3 lines 62-68 of Nakashio as providing basis therefor. This is simply incorrect, since column 3 lines 62-68 of the Nakashio merely specifies that pullulan may be modified by esterification or may be blended with a water soluble polymer such as polyvinyl alcohol, etc. <u>There is no teaching of interpolymer complexation in Nakashio.</u> In this regard reference is again made to paragraph 5 of the previously filed response.

Further, the office action notes that the Applicant has presented no specific evidence that interpolymer complexation always results in increased barrier properties. While it would be difficult or impossible to present specific evidence that interpolymer complexation ***always*** results in increased barrier properties (considering that in the scientific approach one can never assert any theory to be true with 100% certainty – a theory is accepted based on strong evidence in its support, and lack of evidence that proves the theory wrong), there is strong indication from various reported studies that interpolymer complexation leads to reduced free volume, which would typically result in increased barrier properties. A person skilled in the art of interpolymer complexes knows that the conventional model of an interpolymer complex is that of a denser network compared to the individual polymers due to the interpolymer interactions – this should typically result in increased barrier properties.

Reference is made here to a peer-reviewed study in this regard by the Applicant (CSIR), as well as to several other studies reporting this reduction in free volume, all of which are included herewith in an information disclosure statement filed herewith:

Labuschagne P, Germishuizen WA, Verryn, SMC, Moolman FS. 2008. Improved oxygen barrier performance of poly(vinyl alcohol) films through hydrogen bond complex with poly(methyl vinyl ether-co-maleic acid). *European Polymer Journal* 44(7):2146-2152

Fried JR, Karasz FE, Macknight WJ. Compatibility of poly(2,6-dimethyl-1,4-phenylene oxide) (ppo)-poly(styrene-co-4-chlorostyrene) blends. 1. Differential scanning calorimetry and density studies. Macromolecules 1978;11:150–8.

Pedrosa P, Pomposo JA, Calahorra E, Cortazar M. On the glass transition

behavior, interaction energies, and hydrogen-bonding strengths of binary poly(p-vinylphenol) polyether blends. Macromolecules 1994;27:102–9.

Don TM, Bell JP, Narkis M. Antiplasticization behavior of polycaprolactone/polycarbonate-modified epoxies. Polym Eng Sci 1996;36:2601–13.

Lu SX, Pearce EM, Kwei TK. Blends and interpolymer complexes of poly(styrene-co-4-vinylphenylmethylphenylsilanol) and poly(N-vinylpyrrolidone). Polym Adv Technol 1996;7:553–9.

The office action has given insufficient cognizance to the different polymeric species of the polymeric layer being complementary so that they are bound together physically by interpolymer complexation to form an interpenetrating physical network. It would appear from the office action's usage of the term "interpolymer network" that the office action does not appreciate the difference between an interpenetrating network on the one hand and an interpolymer complex on the other hand. There is no such thing as an interpolymer network.

The crux of the present invention is the use of interpolymer complexation to form an interpenetrating network. This distinction is clearly set out in the previously filed response, and in this regard reference is made specifically to paragraph 4 of the previously filed response where it is emphasized that an interpenetrating network formed from different polar water soluble polymeric species which are physically bound together but not complementary in the context of the present invention so that interpolymer complexes are not formed, is different to that obtained from an interpolymer complex formed in accordance with the invention.

The office action notes that the Applicant has failed to present any arguments or evidence

that pullulan would not be physically bonded by interpolymer complexation to polyvinylamines, polyacrylamides, polyacrylic acid, carboxymethyl cellulose, and hydroxylmethyl cellulose which are also disclosed by Nakashio et al. However, to a person having ordinary skill in the art, it is clear that, of the polymers listed, the only one likely to form an interpolymer complex with pullulan is in fact polyacrylic acid; however, polyacrylic acid is merely listed as one of a number of polymers that can be used, all apparently on the same footing, with pullulan. This again emphasizes that Nakashio et al does not at all teach or even suggest the formation of an interpolymer complex giving rise to an interpenetrating network.

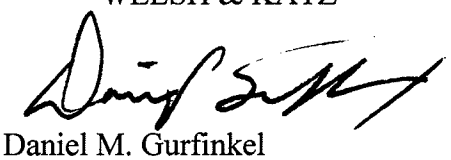
However, in a sincere attempt to advance this case, Claim 1 has been amended to limit the polymers from which the different polymeric species making up the barrier component are selected, to certain of the groups or categories specified in Claim 12 but not including, amongst others, gums. Pullulan is a gum and hence no longer falls within the scope of Claim 1.

Favourable reconsideration is respectfully solicited. Applicant is responding within the two month period following the mailing of the latest office action and respectfully requests allowance of Claims 1-11 and 13-16 or in the alternative an advisory action giving reasons for continued rejection.

The Examiner is respectfully invited to contact the undersigned attorney upon entry of this amendment if further clarification can be made by such contact.

Respectfully submitted,

HUSCH BLACKWELL SANDERS
WELSH & KATZ



Daniel M. Gurfinkel

February 13, 2009

Customer No. 24628